



# Physical Science Curriculum & Pacing Guide



Content Area: Physical Science		Grade Level: High School	
Title of Unit: Volume and Mass		Number of Weeks/Days: 12 days	
Standards:		Assessment:	Resources:
		Exp. 1.1: The students will determine what happens when baking soda is heated.	<b>IPS Equipment (Chapters 1,2,3,4,5,6):</b> Balance, Equal-Arm Balance, Electronic Beaker, 100 mL Beaker, 250 mL Test tube brush, nylon Bucket, Plastic 5 Quart Ring stand Ring Ring stand clamps (buret) Wire Gauze Bottles, small plastic Crucible, size 00, porcelain Cylinder, graduated 10 mL Cylinder, graduated 50 mL Dish, Evaporating, size 000 porcelain Electrolysis electrodes Funnel, plastic Gram mass set Metal cube, cylinder, slab set Bunsen burners Burner tubing, 3/16 I.D. x 3/8 O.D. Strikers Power supply, 6-12V Test tube rack Safety Glasses Scoopula Stirring rods, glass Policeman Stoppers, Rubber #2 Solid Stoppers, Rubber #4 Solid Stoppers, Rubber #4, 1-hole Stoppers, Rubber #4, 2-hole
		1.2 Volume: The students will be able to define volume and learn how it is used in measuring matter.	
		1.3 Reading Scales: The students will learn how to read scales accurately.	
		1.4 Measuring by Displacement: Students will measure volume by displacement of water.	
		1.5, 1.6, 1.7 Balances: The students will be able to distinguish between and describe differences between balances.	
		1.8 Balance Sensitivity: Students will learn the limitations of their electronic balance	



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		Test tube, Pyrex 20x150mm Test tube, Pyrex 25x150mm Thermometer, 76 mm immersion, -10-110°C Triangle, clay wire Tubing, glass, 6mm, straight Wire leads with Alligator Clips
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Content Area: Physical Science		Grade Level: High School	
Title of Unit: Mass Changes in Closed Systems		Number of Weeks/Days: 11 days	
Standards:		Assessment:	Resources:
HSPS1.4		2.1, 2.4, 2.5, 2.6 The students be able to define a change in mass as a final value minus an initial value and will learn what a closed system is.  2.2, 2.3 Students will learn how to display class data graphically.  2.7 The students will be able to conclude, based upon lab results, that mass remains constant in closed systems.  2.8 Students will be able to differentiate between laws of nature and laws of society.	<b>IPS Chemicals and Consumables:</b>  Alcohol, isopropanol 99% Alka-Seltzer Sodium bicarbonate Boiling chips Citric acid, granular hydrous Copper, fine granular, reagent Copper turnings Copper acetate, monohydrate Magnesium sulfate
HSPS1.5			
HSPS1.7			





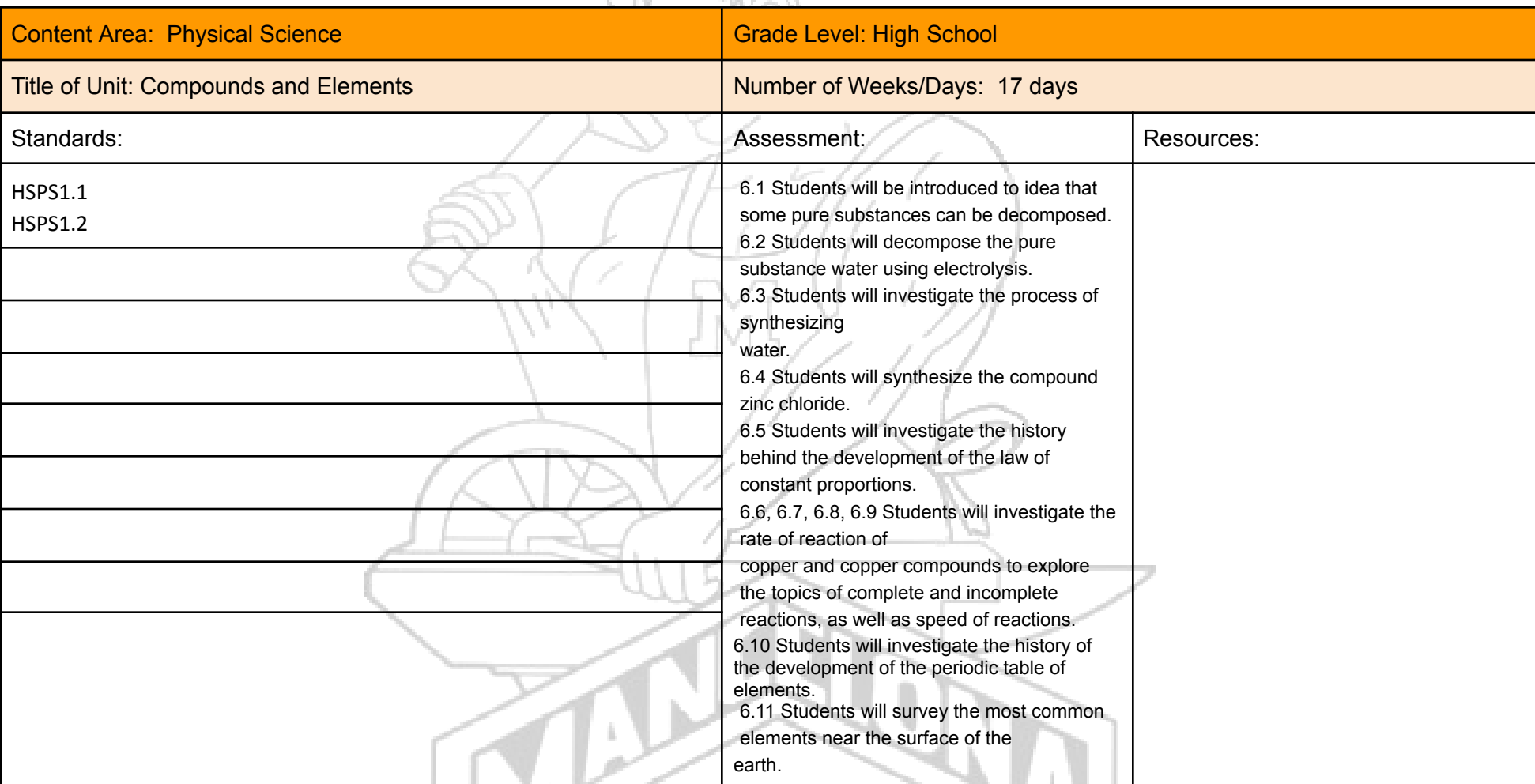


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Content Area: Physical Science		Grade Level: High School	
Title of Unit: Solubility		Number of Weeks/Days: 13 days	
Standards:		Assessment:	Resources:
		4.1 Students will discover that amount of solid that dissolves in a liquid is dependent on the volume of the liquid.	
		4.2 Students will be able to calculate concentration of a solution.	
		4.3 Students will learn that solubility is the concentration of a saturated solution.	
		4.4 Students will learn that solubility of solids increases as the temperature of the liquid increases.	
		4.5 Student will learn properties of commonly used alcohols.	
		4.6 Students will learn that solids can be differentiated by comparing solubilities in different solvents.	
		4.7 Students will determine the solubility of carbon dioxide in water.	
		4.8 Student will learn that the solubility of gases decreases as the temperature of the solvent increases.	
		4.9 Students will learn the certain gases, when dissolved, will cause water to become acidic.	
		4.10 Students will learn that many things are dissolved in the water that they drink.	

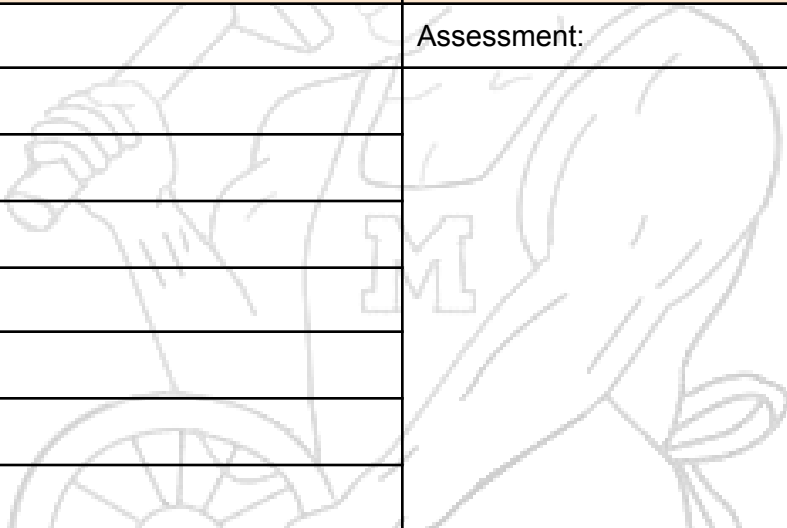


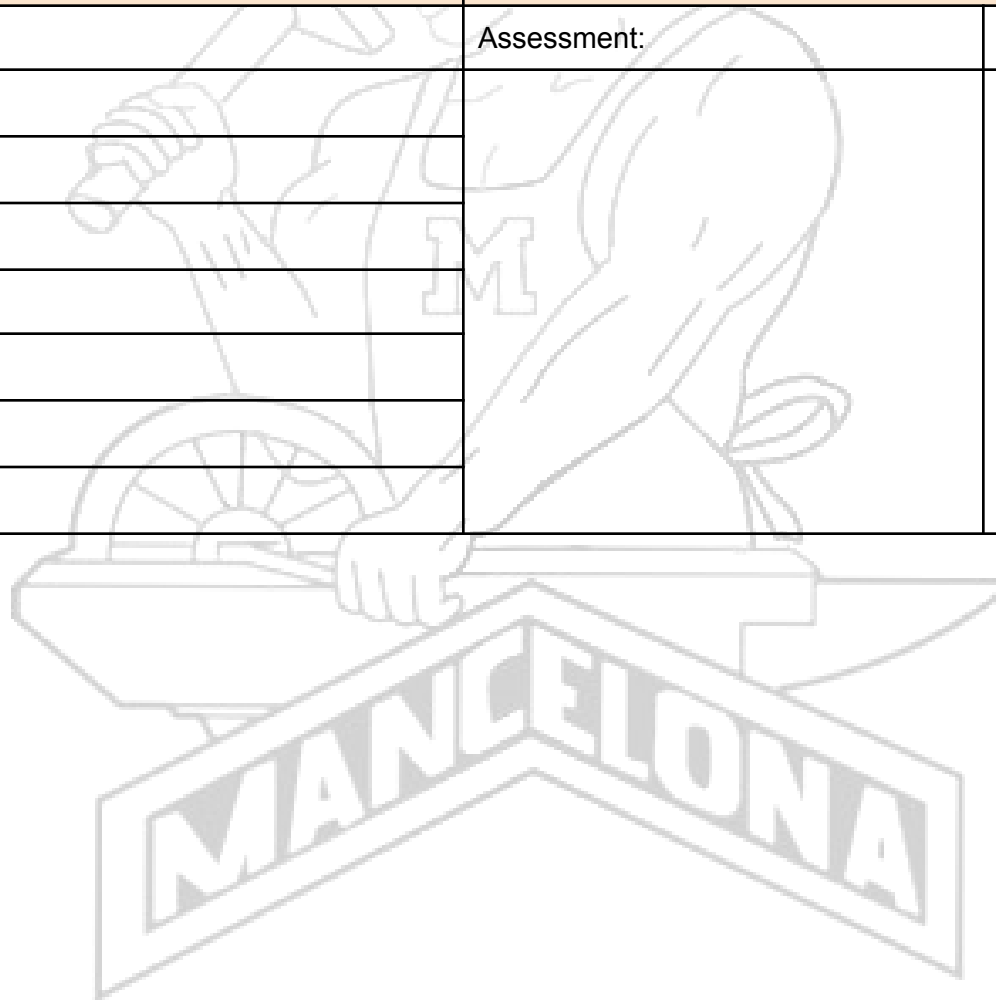




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Content Area: Physical Science		Grade Level: High School	
Title of Unit: Sludge Test		Number of Weeks/Days: 7 days	
Standards:		Assessment:	Resources:
HSETS1.2			







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Content Area: Physical Science		Grade Level: High School	
Title of Unit: Heating and Cooling		Number of Weeks/Days: 11 days	
Standards:		Assessment:	Resources:
		12.1 Students will discuss the use of a calorimeter,	
		12.2 Students will use a calorimeter to measure changes in temperature in warm and cool water,	
		12.3 Students will learn the meaning of the Joule, a measurement of energy,	
		12.4 Students will use a calorimeter to measure changes in temperature between water and metal,	
		12.5 Students will learn the definition of specific heat,	
		12.6 Students will use a calorimeter and the concept of specific heat to determine the amount of heat needed to change ice to water,	
		6.7 Students will learn the definitions of heat of fusion, heat of vaporization and complete practice problems.	

